

Characteristics of seepage lake in the humid region as a recharge source of spring and river water

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The characteristics of seepage lake under the humid climate was discussed in order to delineate the recharge source of spring and river water using water temperature and quality as a tracer. In the sub-tropical Lake Ikeda, amount of seepage of lake water is calculated as 0.8 m³/sec based on the difference between precipitation and evapotranspiration. In Lake Batur in Bali Island, the concentration of sulfate in river water is fairly high as compared with that of other rivers. It is concluded that the seepage water from caldera lake contributes much to the major source of spring and river water.

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In the sub-tropical Lake Ikeda, amount of seepage of lake water is calculated as 0.8 m³/sec based on the difference between precipitation and evapotranspiration.

In Lake Batur in Bali Island, correlations of river water with surrounding groundwater were examined as a typical study example. Water of Lake Batur shows a considerably high electric conductivity with no obvious differences with depth. Chemical composition of river water is intimately analogous to that of springs near the river channel. As a characteristic feature on the chemical aspects of river water, it is pointed out that the concentration of sulfate in river water is fairly high as compared with that of other rivers. It can be also considered that the effect of Lake Batur water decreases as water flows down along the course of river channel. Along the altitude of about 500 m in the southern slope of Bali, major springs with large amount of discharge are zonally distributed. It is suggested from the strong similarity of chemical characteristics of water, that the seepage water from Lake Batur plays an important role as a source of river water. It is concluded that the seepage water from caldera lake contributes much to the major source of spring and river water.